Claim 6 (Original):   The method of claim 1, wherein said first nucleic acid is linked to said targeting ligand by a linker or by an affinity tag.

Claim 7 (Original):   The method of claim 1, wherein said first nucleic acid is linked to said targeting ligand by an affinity tag comprising a biotin and a molecule that binds to biotin.

Claim 8 (Original):   The method of claim 7, wherein said molecule that binds to biotin is selected from the group consisting of an avidin, a streptavidin, and an anti-biotin antibody.

Claim 9 (Original):   The method of claim 7, wherein said first nucleic acid is a peptide nucleic acid.

Claim 10 (Original):   The method of claim 9, wherein the carboxyl terminal of said first nucleic acid is amidated.

Claim 11 (Original):   The method of claim 7, wherein said first nucleic acid is an antisense peptide nucleic acid.

Claim 12 (Original):   The method of claim 7, wherein said first nucleic acid bears a protecting group.

Claim 13 (Original):   The method of claim 7, wherein said first nucleic acid is a peptide nucleic acid having an amidated carboxyl terminal.

Claim 14 (Original):   The method of claim 1, wherein said detectable label is selected from the group consisting of an radioactive label, a magnetic label, a spin label, an enzymatic label, a colorimetric label, and a fluorescent label.

Claim 15 (Previously presented):   The method of claim 1, wherein said first nucleic acid is labeled with a radiolabeled amino acid.

Claim 16 (Original):   The method of claim 15, wherein said radiolabeled amino acid is a tyrosine labeled with 125I.

Claim 17 (Original):   The method of claim 15, wherein said radiolabeled amino acid is a lysine labeled with 111-indium.

Claim 18 (Original):   The method of claim 1, wherein said gene is a gene that encodes a molecule selected from the group consisting of a receptor, and enzyme, a structural protein, and a transcription factor.

Claim 19 (Currently amended):   The method of claim 1, wherein:

said first nucleic acid is a peptide nucleic acid;

said targeting ligand is an antibody that specifically binds to a receptor on ~~a cell~~ cells comprising the blood-brain barrier; and

said first nucleic acid is attached to said targeting ligand through an affinity tag.

Claim 20 (Original):   The method of claim 19, wherein said antibody is a monoclonal antibody.

Claim 21 (Original):   The method of claim 20, wherein said imaging reagent comprises a radioactive label or a magnetic label.

Claim 22 (Original):   The method of claim 21, wherein said first nucleic acid is labeled with a radiolabeled amino acid.

Claim 23 (Original):   The method of claim 21, wherein said affinity tag is an affinity tag comprising a biotin.

Claim 24 (Original):   The method of claim 23, wherein said antibody is a monoclonal antibody.

Claim 25 (Currently amended):   The method of claim 23, wherein said receptor is selected from the group consisting of a ~~transferin~~ transferrin receptor and an insulin receptor.

Claim 26 (Original):   The method of claim 25, wherein said receptor is a transferrin receptor.

Claim 27 (Original):   The method of claim 26, wherein the carboxyl terminal of said first nucleic acid is amidated.

Claim 28 (Previously presented):   The method of claim 1, wherein said administering comprises systemically administering said imaging reagent to a living organism.

Claim 29 (Original):   The method of claim 28, wherein said organism is a mammal.

Claim 30 (Original):   The method of claim 28, wherein said organism is a non-human mammal.

Claim 31 (Original):   The method of claim 28, wherein said organism is a human.

Claim Claims 32-61 (Canceled).